The DXF converter reads the 3DFACE lines found in some 3D DXF files and attempts to create a Fire Dynamics Simulator (FDS) data file.

Column 1 – A list of the CAD layers in the DXF file. Each layer will be defined as a SURF in the FDS file.
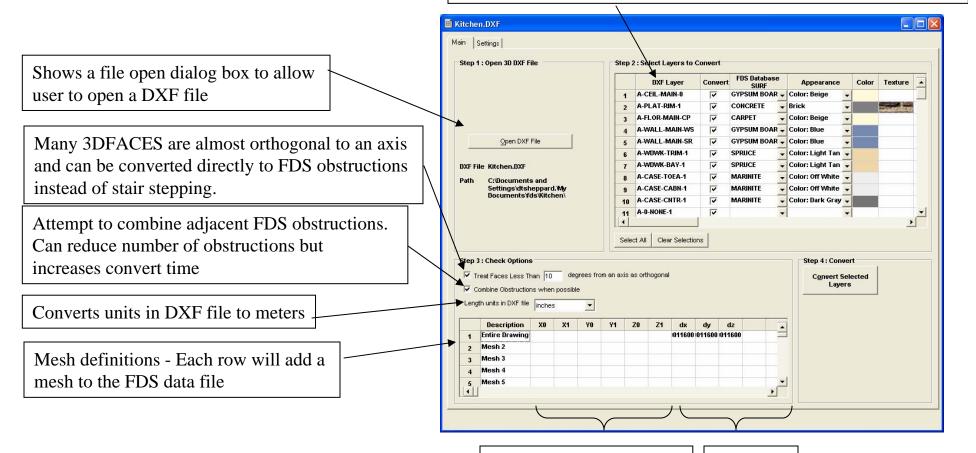Column 2 – Defines if layer should be converted
Column 3 – Defines SURF_ID for layer. Dropdown contains material list from FDS database.
Column 4 – Defines the appearance for the CAD view.
Column 5 – Shows the color for the appearance in column 4
Column 5 – Shows the texture map for the appearance in column 4

Shows a file open dialog box to allow user to open a DXF file

Many 3DFACES are almost orthogonal to an axis and can be converted directly to FDS obstructions instead of stair stepping.

Attempt to combine adjacent FDS obstructions. Can reduce number of obstructions but increases convert time

Converts units in DXF file to meters

Mesh definitions - Each row will add a mesh to the FDS data file

Defines extents of mesh. The default is the extents of the DXF file.

Grid size in meters

Kitchen.DXF

Main | Settings

Step 1 : Open 3D DXF File

Open DXF File

DXF File Kitchen.DXF

Path C:\Documents and Settings\dtsheppard.My Documents\fds\Kitchen\

Step 2 : Select Layers to Convert

	DXF Layer	Convert	FDS Database SURF	Appearance	Color	Texture
1	A-CEIL-MAIN-0	✔	GYPSUM BOAR	Color: Beige		
2	A-PLAT-RIM-1	✔	CONCRETE	Brick		
3	A-FLOR-MAIN-CP	✔	CARPET	Color: Beige		
4	A-WALL-MAIN-WS	✔	GYPSUM BOAR	Color: Blue		
5	A-WALL-MAIN-SR	✔	GYPSUM BOAR	Color: Blue		
6	A-WDWK-TRIM-1	✔	SPRUCE	Color: Light Tan		
7	A-WDWK-BAY-1	✔	SPRUCE	Color: Light Tan		
8	A-CASE-TOEA-1	✔	MARINITE	Color: Off White		
9	A-CASE-CABN-1	✔	MARINITE	Color: Off White		
10	A-CASE-CNTR-1	✔	MARINITE	Color: Dark Gray		
11	A-0-NONE-1	✔				

Select All   Clear Selections

Step 3 : Check Options

☑ Treat Faces Less Than 10 degrees from an axis as orthogonal
☑ Combine Obstructions when possible
Length units in DXF file inches

	Description	X0	X1	Y0	Y1	Z0	Z1	dx	dy	dz
1	Entire Drawing							011600	011600	011600
2	Mesh 2									
3	Mesh 3									
4	Mesh 4									
5	Mesh 5									

Step 4 : Convert

Convert Selected Layers

Allows user to predefine surface appearances (colors and texture maps)
Column 1 – User defined description
Column 2 – Button showing color palette dialog box
Column 3 – Button showing color palette file dialog, chosen files are copied to the texture folder
Column 4 – Texture height in meters
Column 5 – Texture width in meters
Column 6 – Texture filename in the texture folder

By default the converter directly uses the location of the 3DFACEs in the DXF file (converted to meters).
This option allows the user to shift all obstructions to a specified origin.

Default grid to use in the mesh

Open the new FDS data file in notepad after the conversion

Run FDS and Smokeview after conversion

Commands used to run FDS and Smokeview

Location of FDS database file

Location of texture map files

Kitchen.DXF

Main | Settings

Extra

Appearance   Add...

□ Specify Origin   X0 0
                   Y0 0
                   Z0 0

Default Grid   dx 0.1   dy 0.1   dz 0.1

☑ Open in Notepad after conversion
☑ Open in smokeview after conversion

FDS   FDS4
Smokeview   smokeview

FDS Database
C:\nist\fds\database4\database4.data
Textures Folder
C:\NIST\texturefiles\   ...

	Description	Color	Texture	Texture Height	Texture Width	Texture Filename
1	Brick	Color ...		1.00	1.00	Cb4052t.JPG
2	Carpet	Color ...		0.30	0.30	Carpet-a13(20).JPG
3	Color: Beige	Color ...	Texture ...	0.00	0.00	
4	Color: Blue	Color ...	Texture ...			
5	Color: Brown	Color ...	Texture ...	0.00	0.00	
6	Color: Dark Blue	Color ...	Texture ...			
7	Color: Dark Gray	Color ...	Texture ...	0.00	0.00	
8	Color: Green	Color ...	Texture ...			
9	Color: Light Gray	Color ...	Texture ...			
10	Color: Light Green	Color ...	Texture ...		0.00	
11	Color: Light Tan	Color ...	Texture ...	0.00	0.00	
12	Color: Mauve	Color ...	Texture ...	0.00	0.00	
13	Color: Med Gray	Color ...	Texture ...	0.00	0.00	
14	Color: Off White	Color ...	Texture ...	0.00	0.00	
15	Color: Peach	Color ...	Texture ...	0.00	0.00	
16	Color: Purple	Color ...	Texture ...			
17	Color: Red	Color ...	Texture ...	0.00	0.00	
18	Color: Red Brown	Color ...	Texture ...	0.00	0.00	
19	Color: Sea Green	Color ...	Texture ...			
20	Color: Shiny White	Color ...	Texture ...	0.00	0.00	
21	Color: Sky Blue	Color ...	Texture ...			
22	Color: Tan	Color ...	Texture ...	0.00	0.00	
23	Color: Taupe	Color ...	Texture ...	0.00	0.00	
24	Color: White	Color ...	Texture ...	0.00	0.00	
25	Color: Yellow	Color ...	Texture ...		0.00	